

[PLASMA PROCESSING APPARATUS]

Abstract

A plasma processing apparatus for performing plasma processing with respect to a sample in a reaction vessel includes a first dielectric that is connected to a microwave generating means, the first dielectric having a section that extends along a surface of a sample to be processed that is rectangular, and that makes an electric field strength distribution of the microwaves generated from the microwave generating means substantially uniform along the surface of the sample to be processed; a slot plate that is provided below the first dielectric and in which a plurality of first slots are formed, the slot plate retaining or further enhancing the uniformity of the electric field strength distribution of the microwaves in the first dielectric; a second dielectric that is provided below the slot plate and that retains or further enhances the uniformity of the electric field strength distribution of the microwaves supplied from the slot plate; and processing means that processes the sample using a plasma generated in the reaction vessel by the microwaves.